114 back an exhaustive account of their subsistence pattern and material culture as well as considerable data on religion and ceremonial life. According to modern interests, the report is weak in life-cycle data and economics, and a serious drawback is the almost complete lack of comparative considerations. Moreover, it describes a culture with marked European influences. Nevertheless, at this writing, it remains one of our most complete accounts of an aboriginal South American group. The remaining titles in the bibliography refer to linguistic treatises, hearsay accounts, and phantasies of hurried travelers.

The inaccessibility of their habitat facilitated the *Cayapa's* survival into the 20th century, but it also prevented most chroniclers from visiting their land. Early references to naked and painted Indians living along the Patia River in large houses on tall poles and wearing gold ornaments might refer to the *Cayapa* or to some other *Chibchan* people. Jijón y Caamaño (1940–45, vol. 2) has reproduced fragments from an unpublished Cabello Balboa chronicle discussing the people of Esmeraldas Province during the 16th century. Among the peoples figuring prominently in Cabello Balboa's report are the *Nigua*, an Indian group inhabiting traditional *Cayapa* territory. Jijón y Caamaño's suggestion (1940–45, vol. 2) that the *Nigua* and *Cayapa* are one people seems tentatively acceptable.

Both peoples claimed to have descended from the Andean Highlands, though it is unclear if they were refugees from the *Inca* or Spanish invasions. As reported by Barrett, this tradition is very strong even now, four centuries after the Conquest, permeating various divergent activities of the *Cayapa*, who date many techniques and artifacts in terms of pre- or post-migration practices. In 1907 Beuchat and Rivet had pointed to toponymic and archeological similarities between Esmeraldas Province and the *Cara* country in the Highlands. Later work by Jijón y Caamaño (1912, 1919, 1940–45, vol. 2) has strengthened the case for *Chibchan* affiliation of the *Cara* language and given a measure of confirmation to native tradition.

CULTURE

SUBSISTENCE ACTIVITIES

241 [311] Agriculture is the main occupation of the *Cayapa*, although fishing and hunting supply a large percentage of their food. Each house is surrounded by clearings and fields, and additional clearings are customarily made away from the river, in the bush. Most families have fields of plantains, bananas, sugarcane, coca, and sweet manioc (yuca); in addition, cotton, tobacco, maize, yams, and pineapples are frequently cultivated. Many wild plants are encouraged through weeding and other care.

241 [262] [230] Plantains (pl. 60, *bottom, right*) form the staple food of the *Cayapa*, and each family will have several acres planted to this perennially ripening fruit. Bananas are fed to the hogs and cover an acreage almost as large as that of the plantain.

2: Murra E-4 (no date) 1943 SD6 Cayapa SD6

as that of the plantain. Almost every family owns its cane mill and distillery, which are supplied by the omnipresent canefields.

With all this emphasis on agriculture, the *Cayapa* are, nevertheless, a jungle people, skilled hunters of many species of rodents, deer, felines, peccaries, armadillos, and birds. Life at the riverside encourages and is encouraged by dependence on fish, crustaceans, shellfish, and crocodile eggs. Under aboriginal conditions the *Cayapa* were probably never hungry.

Hogs and chickens are now kept everywhere. Dogs are not conspicuously reported.

Food is mostly boiled, though frequently meat will be broiled or baked. Surpluses are dried and smoked.

HOUSES AND VILLAGES

Though maps traditionally locate *Cayapa* "villages," these are nothing but agglomerations of three or four houses and a church. The houses stand empty most of the year and are used only at holidays when the priests visit the *Cayapa*.

The actual habitations of the people are spread through the jungle, always at riversides (pl. 57, *top*) and usually isolated from one another by fields or even uncleared stretches. The houses stand on high poles 6 to 12 feet off the ground and are reached by removable ladders. The roof is thatched with palm leaves (pl. 57, *center*), and the rectangular house is virtually unenclosed. Sometimes the house floor is separated into two parts, one for cooking, the other for sleeping and eating. One chief had a large house (pl. 57, *bottom*) which could seat 40 people and which had more than two "rooms." The furniture is scanty: hammocks are used for sitting and sleeping, and wooden seats are sometimes found. An attempt by Barrett to correlate these seats with the famous stone seats of Manabi (Handbook, vol. 2, p. 780) seems very inconclusive.

In addition to permanent houses, small temporary ranchos are sometimes built when people are far from home. The houses in the "village" are standard structures, but the church follows Spanish ways: it rests on the ground and has walls.

CLOTHING AND ADORNMENT

Although *Cayapa* tradition records a period when the people wore blankets and even ponchos, today their clothes are scanty (pl. 59, *bottom*). The men wear a tight, small, white garment, made like bathing trunks, and a thin gaudy shirt of calico, with short and very tight sleeves. On festive occasions vests of European cut and manufacture are frequently donned over the shirt, and so are felt fedoras.

Women wear a long skirt of native cloth, girded with a narrow fringed belt. As in the Highlands, several skirts of different weights are sometimes worn. Head, shoulders, and chest are usually left bare.

3: Barrett E-5 (1908-1909)1925
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136 may be mentioned at least one species of leaf-cutting ant whose peculiarly spiny body presents an interesting appearance, though it is in no way of special importance [825] to the Indians. One very large, black, stinging ant, called conga in Spanish, and nyû'mī in Cayapa, is much feared by the Indians and others resident in this region, for the reason that its sting produces not only an annoying local irritation, but also a rise in the temperature of one bitten, so that it is commonly said that the sting of the conga insures two days of fever.

825 Certain species of small bees are of value to the 136 Indians, particularly in the production of the wax used [237] in calking canoes and pottery, and in painting canoes; [278] it is also employed remedially to a slight extent as a [262] cure for cuts and abrasions. The honey made by these bees is very little sought as a food, and is quite secondary in value to their wax. The Indians recognize four classes of these bees. The paba ta'nda is a small black species that lives in trees and makes the best wax which is yellow in color and is produced in larger quantities than that made by any of the other bees. The ciñemi'ski, also a small black bee, lives in the ground and produces an inferior black wax which is used only to a limited extent by the Indians. The third of these small black bees is the ta'nda, which lives in trees but which produces much more honey than wax. The fourth species, amûi a'ma, is a small yellow bee which likewise lives in trees and produces a black wax that is used to a considerable extent.

136 825 262 Certain insects are employed as food. Two of these,

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which were observed, were a large, black, beaked beetle (*Rhymchophorus palmarum*), called kū′perū by the Cayapa, and a large white larva called kōmu′cū by them.

Certain other insects, though of no special economic importance, are of interest to the Indians. One in particular is a large beetle (*Euchroma goliath* L. & G.) whose iridescent wing-covers are employed in making necklaces. There are also large, beautifully colored butterflies, dragonflies, and a large firefly (*Pyrophorus pellucens*), besides a host of other species of insects of greater or lesser interest.

Insects

English	Spanish	Cayapa
beetle (*Rhymchophorus palmarum*)		kū′perū
beetle (*Euchroma goliath* L. & G.)	cucaron	kabē′′tsū
firefly (*Pyrophorus pellucens*)		mū′lūkū
bees		paba ta′nda ciñemi′skī ta′nda amūī a′ma
ant (a large, black, stinging ant)	conga	nyû′mī
larva (a large white larva)		kō′mucū
larva	cogoyo	avī′
a worm or caterpillar	hualpe	tcīlī′lī

MINERALS

Among the natural resources of the country should be mentioned its minerals, certain of which are found

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173 in large measure they found to be the same as it is now; but the Cayapa did not take possession of the former territory of the Indios Bravos until conditions had first been more or less changed. For instance, while the Indios Bravos had fields of plantains and bananas as do the Cayapa at present, they were not utilized directly by the conquerors, but the roots were dug up and replanted. Similarly all other products of the labor of the Indios Bravos were changed, thus removing any danger to the Cayapa from using them.

[262] In those days also, the sabalo, the fish most prized by the Cayapa, existed only in the main streams of the rivers: it never came into the small esteros as it does now. On going into the country of the Indios Bravos the Cayapa placed near the mouth of each estero a row of palm-wood posts which had the magic power of rising from the ground to their full height during full moon and of sinking into the mud out of sight during the dark of the moon. These posts are said to have had a direct effect on this particular species of fish and on their passing up and down the estero. Some of these posts are said to be found even now at the mouths of certain esteros.

173 There are, of course, no means of fixing the exact
174 date of the migration of the Cayapa either to Pueblo Viejo or to their present location, and their tradition cannot be taken too literally. However, it seems probable that the essential features of the tradition in large measure are based on historical facts.

Whatever the reasons for their move, and whatever

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Food and its Preparation

241 •262 The territory of the Cayapa is abundantly supplied by nature with both vegetal and animal foods, the former being the more important. In addition, various introduced vegetal foods are now raised by the natives, the most notable of which are plantains, bananas, sugar-cane, yuca, pineapples, cacao, and sweet potatoes. There are also various introduced fruits, such as guabos, caimitos, sapotis, papayas, and, to a limited extent, coconuts. In addition to these, many species of wild plants and trees yield foods; especially is this true of the palms, such as chonta dura and palma real.

224 262 The jungle abounds in a great variety of mammals and birds, most of which furnish food for the Indians. The mammals mostly used are the guanta and the guatin, two large species of rodents, the peccary, the wild-hog, the deer, the jaguar, the puma, the ocelot, a small species of red squirrel, a large species of wood-rat, the sloth, the ant-eater, and the armadillo. The birds most used as food are two species of grouse, two species of wild turkey, two species of toucan, and several species of dove. The rivers abound in various kinds of fish, several of which are eaten by the Cayapa. A species of lobster is also plentiful in the streams, and there is a very small mussel-like bivalve which is consumed to a limited extent. Reptiles of all kinds are shunned, although the boa and certain other species of large serpents occur in the region. The iguana and its eggs are much prized as food, and numbers of these large lizards are taken in the season when they come down

3: Barrett E-5 (1908-1909)1925
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to the river to lay their eggs. The large eggs of the alligator are also much in favor, and it is said by some that alligator flesh is edible. The eggs and flesh of another and slightly different species of amphibian, called tulicio in the local Spanish, are likewise used for food. In addition to these foods there are certain insects which, either full-grown or in the larval state, are much esteemed.

Various methods are employed in the preparation of these foods. The plantain, the most important food product of the Cayapa, is prepared in a variety of ways. It is almost invariably gathered while green, and is regularly eaten in that condition, though ripe plantain is frequently used for making a kind of gruel, and occasionally it is roasted. The usual method of preparing the green plantains is by boiling, the outer covering of the fruit having first been removed. They are thus cooked for from a half to three-quarters of an hour in a pottery vessel, or nowadays more frequently in an iron or a granite-iron kettle, closely covered with a green leaf called ü'tya hakî, which is very tough and is used in many ways in the preparation of food. It is impossible to cook green plantain so that it is tender, hence the usual mode of preparing it is to beat the hard, cooked fruit with a stone muller upon a mealing stone (pl. LXII, 1, 2), mixing and kneading it meanwhile with the hand. Usually this beaten plantain, which is called bala, is eaten without seasoning, although a little salt may be added; or it may be mixed with dried meat during the pounding. The boiled green plantain is also frequently eaten without

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special racks are built above the fire-box, where strips of meat, or, if the animals or birds are small, the entire bodies, are placed to dry and smoke. Sometimes there are as many as three of these racks, one above another, each covering the same amount of space as the fire-box itself. Considerable time is necessary for drying meat in this way, and, when once dried, it must be kept either on the racks or near the fire in order to prevent molding. For drying fish there usually is employed the upper half of a large earthenware jar, which is turned down over the fire and the fish laid across the opening upon green sticks. Being thus close to the fire, a shorter time is sufficient to dry and smoke the fish, but when thus cured they also must be kept on the racks above or elsewhere near the fire-box in order to keep them from molding. A few vegetal products, especially medicinal herbs, are dried in a similar manner, as likewise are two vegetal foods. The inner covering of the tagua or ivory nut, which, when dried and then roasted upon the coals, has an excellent flavor, is used as food to a slight extent. Green plantain is cut crosswise into thin sections and dried thoroughly in the sun, when possible, or over the fire when necessary. It is then ground to powder and mixed with water into a thin gruel, which is used as food for babies when the mother is ill or for other reasons is unable to provide a proper supply of milk.

Boiling is employed also in the preparation of certain vegetal foods in cane juice. While practically all the product of the cane-field is used in making rum, some syrup and sweets are occasionally prepared. Yuca and

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plantain or other fruits are cut into fairly small pieces and boiled in the cane juice during the process of reducing it to syrup, thus producing a rich and toothsome conserve. Much labor is entailed in making this delicacy, but it is rarely prepared except as a secondary product of distillation.

A rather rare food, and one much prized by the Cayapa, is a large white, brown-headed grub, called kō'mucū, which is found in rotten trunks and stumps of fallen palms. Their presence is easily detected by their low, crunching sound as they eat the tough palm fibers within. Such a log is cut open and the grubs are carefully taken out, along with a considerable quantity of the rotted palm-wood. They are usually placed in burden-baskets and then stored in the house in a closely-covered olla until needed. The grubs have a very tough skin, and contain a considerable quantity of rich fat, resembling lard, which is used by the Indians in several ways. The kō'mucū may be eaten raw, but more frequently it is broken open, placed over the fire in a small pottery vessel, and fried in its own fat, so to speak, resulting in a very rich oily food. Another favorite method of preparing this food is to mash and make into a gruel some boiled ripe plantain, which is stirred into a pot of kō'mucū that has been made to boil with a small quantity of water. Most of the kō'mucū used in making this dish are left whole, but a sufficient number of them are broken to liberate a considerable quantity of fat into the receptacle. The result of this process is a rich food of the consistency of gruel, and it is relished, perhaps, above all others.

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274 caldron a second time. If, however, a contrary result has been effected, someone else will usually "try his hand." [777] The whole process of rum-making is one in which the women do fully as much work as the men, and they also have "lucky" and "unlucky" hands in distillation.

Usually the ordinary distillation above described is considered sufficient. If, however, an exceptionally good rum is desired, as for use at certain feasts, a special process of fractionation is resorted to and the product of the ordinary distillation is redistilled. A special flavor is imparted to the rum at this time by putting into the caldron with it several of the large leaves of an aromatic herb which abounds in the region and which possesses an anise-like odor and flavor.

257 As previously stated, the chief use of sugar-cane is for making rum, but, as before described in speaking of foods, the Cayapa occasionally make syrup and also a kind of preserves. On the other hand, they never make 262 sugar, as do the negroes of this region. Much raw cane is also chewed. The fibrous though tender stalk is, of course, not swallowed, but it yields a large quantity of rich, sweet juice which is highly relished. The cane is also frequently roasted in the coals; and in boiling cane-juice to make guarapo for distillation, stalks of raw cane are frequently cut up and thrown into the kettle to boil with the juice. The result of either the roasting or the boiling is a rich food with a flavor resembling that of maple, and is even more palatable than the raw cane.

Cacao (Cayapa, kaka'bō), from which chocolate is made, is extensively grown by the Cayapa, although

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[272] freshing and is drunk with much relish by the Indians.
257 The seeds themselves are spread upon mats on the drying platform of the house and are carefully watched during the next couple of weeks to prevent them from being wet by the frequent rains. After this period they are sufficiently dry to be stored away until the next trip down the river, when they are sold to traders. Cacao is [439] one of the most important exports of Ecuador, whose territory is the source of a considerable part of the chocolate of commerce.

274 Although the Cayapa cultivate so much cacao, they
272 drink it only now and then, usually at fiestas. It is prepared by first thoroughly grinding the dried cacao upon a mealing stone such as is used for grinding plantain, and then boiling. For this purpose the Cayapa make a pot of special form, such as that shown in pl. LXXXVII, 9. The boiling chocolate is stirred at intervals with an implement of special form called tcōkōla'*te* tcalī, illustrated in pl. LXI, 6–7. The result of this process is a comparatively thick, very rich and oily liquid, quite unlike the beverage prepared from the ordinary chocolate of commerce, since the chocolate prepared directly from the seeds as above described retains all the natural oil. It may be drunk in this form, but if sugar is available it is usually added.

249 Pineapples (Cayapa, tcī'lya), the only use of which is as
[262] a food, are grown to a limited extent by some of the Cayapa. The green tops of the fruits themselves are planted close together in rows, and from these the plants grow. When once established, such a plant requires

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very little attention until time to gather the fruit, which in this region is of excellent flavor, especially when allowed to ripen thoroughly on the plant. 249

The fleshy roots of the yuca (Cayapa, kû"tcû) are considerably used as food. The yuca is started by means of cuttings, and requires from seven to nine months to produce the edible roots. These roots are usually boiled in the regular manner when used as an ordinary food, but, as above mentioned, they are also frequently boiled in sugar-cane syrup to make a kind of preserves. The yuca is a very nutritious food, has an excellent flavor, and by many is much preferred to either potatoes or yams. It is never baked. 244 262 [252]

Potatoes (Cayapa, pû'lyû) do not thrive at this low altitude, owing to the heat and humidity, although they grow well in the valleys of the higher Andes. On rare occasions they are obtained from the Indians of these interior valleys who make journeys to the coast for trading and other purposes. They have also been procured in more recent years from the traders about the mouth of the river, but the Cayapa seldom purchase commodities of this class. 244 439 262

Another food of a similar kind which is grown by the Cayapa to a limited extent is the red yam. It is started by cuttings in the ordinary manner. In preparing them for food, the yams are boiled, but are never roasted, as is so frequently done by aboriginal peoples. 244 262 252

Of this class also is the root-stalk of the rascadera (Cayapa, *t*û'a), a species of caladium which is grown to a limited extent by a few of the Cayapa. This is also pre-

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pared exclusively by boiling. Rascadera and yuca are grown to a much greater extent by the negroes who live along the river than by the Indians.

According to their own tradition, the Cayapa, having been formerly a mountain people, in earlier times subsisted largely on maize or Indian corn (Cayapa, pi'cû), which is still one of the principal foods of practically all the Indians of the higher Andes. On moving to the lower altitudes, the Cayapa brought the maize with them, and even yet a small quantity is grown by them. The plant itself it comparatively small, and the ears are very small, rarely exceeding six or seven inches in length. When gathered for food it is almost always taken green and is prepared in one of three ways. Frequently, the husk having been removed, the ear of green corn is simply roasted over coals, when it is considered quite a delicacy, though it lacks the rich flavor of our sweet corn. The products of the other two methods of preparing it are gruels. The first stages in making both kinds are the same, and the process is as follows: The necessary number of husked ears of green corn having been procured, the women chew the kernels from the cobs, depositing them in a large wooden tray, or batea. Since the introduction of various articles of commerce some households use a large tin grater for removing the kernels from the cobs. The kernels are then placed, handful after handful as needed, upon a mealing stone (pl. LXII, 1, 2) and ground with a stone muller such as the one shown resting on the mealing stone shown in fig. 2 of the plate mentioned, a small amount of water being added from

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ears each. These bunches are then hung from the roof to prevent attacks by rodents. Whenever possible the corn is hung where the heat from the fire will keep it from molding.

The foregoing are the chief agricultural food products of the Cayapa. Excepting the maize and the potato, all were introduced since the Spanish conquest and are now systematically cultivated. In this connection should be mentioned certain palms which provide food of one kind or other, and which, while they cannot be strictly classed under the head of agriculture, since they are not planted and tended as are the other plants mentioned, are of considerable economic importance.

One of these palms is that commonly known by the Spanish name chonta dura and called kanō'tci by the Cayapa. One variety of this produces a cluster of red fruits, another a cluster of yellow fruits. The Cayapa name for the fruit of this palm is ka'imbi. Both ripen in the late summer months and are much esteemed as food. By means of a long hooked bamboo pole, these clusters are torn from just below the crown of the palm, which is usually quite tall. The fruits are boiled in a cooking-pot or kettle; the tough skin is then easily peeled off, leaving the yellowish mealy meat ready to eat. In the center of this, in turn, is a very hard nut which, when cracked, yields a toothsome white meat with a flavor resembling that of ripe coconut. The mealy yellow meat is usually eaten with a little salt, but is especially good when eaten with a thick syrup made from cane juice. It is also frequently boiled in this syrup, the result being a kind of conserved fruit.

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While the fruit of the chonta dura is never eaten raw, there is another palm that produces a fruit similar in form but of a grayish yellow color, which is considerably esteemed in its raw state. Neither of these species of palm is purposely planted by the Cayapa, but when found they are carefully protected, and the fruits are harvested year after year.

One other species of palm, a very tall, slender one, produces a fruit which it eaten raw. To secure this the palm is usually cut down with a machete, which is always carried by everyone going into the jungle.

One of the most important of the natural products of this part of Ecuador is the tagua, or ivory nut. These palms, called ti′ñ tcī or tī′mō būlō, are scattered throughout the jungle and are carefully conserved by the Indians, especially where a grove of them is found near a dwelling. The importance of this palm applies both to the Indians and to the negroes and whites. The ripe nuts, tīmbū pū′ka, or *t*imō pōka, are an article of commerce, and their exportation to the United States and to Europe, where they are extensively used in making buttons, is an important industry. To the Indians, however, the tagua serves at least three other uses. When its green burs approach maturity, they are gathered and taken to the house, where they are cut crosswise with a machete. These burs are covered by an outer shell, called ha′ñda kīka. They are very hard and can be cut only with difficulty. Each of the nuts in this stage of its development is an almost transparent gelatinous substance, called tcapī *t*a′ka, which may

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262 either be scooped out with the fingers or sipped. The nut is not used as a regular article of food, but more as a confection, its use being much restricted by the supply and the difficulty of opening the bur.

252 Another food derived from the tagua is the yellow,
262 mealy and comparatively thin covering, called pīm būkū, or ya ū'kū, which surrounds the ripe nut itself. This is peeled off and roasted over coals, if it is to be used immediately, or dried on the smoking rack above the fire if to be used later. The flavor of this roasted meat is similar to that of crisp, baked, fresh pork-rind. It is also frequently eaten raw, but in this state it has a rather unpleasant flavor, similar to that of raw acorns.

ooo The gathering, curing, and use of the tagua leaf, which is almost exclusively employed in thatching houses, are described in the discussion of building construction.

222 A very good food is obtained from the palma real,
[262] called ūya'-tcī. This is a very large species and in form is perhaps the most beautiful of all the palms. Its very straight trunk, which sometimes reaches a height of seventy-five to a hundred feet, swells considerably at a point about midway of its height and resembles an entasic column surmounted by a huge umbrella-shape crown of leaves which wave gently in the breeze. In a large specimen of this species the trunk is from three to four feet in diameter at its base, swelling uniformly to a diameter perhaps one-third greater at the middle, and again decreasing toward the crown to a diameter somewhat less than that of the base. The mature leaves reach a length as great as twenty feet.

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The crisp, pure white, young leaves from the center of the crown of this palm are much esteemed as a food by the Cayapa. To secure these, however, it is necessary to cut down the whole plant, which is done with a machete or preferably an ax. The large, mature leaves of the crown are cut and pried away until the inner part of the trunk is reached. These outer, old leaves of the crown are even more fibrous and resistant than the trunk itself, and as it is almost impossible to cut them away with a machete, an ax is usually necessary. Owing to their great weight, and especially to the interlacing of the hard and very strong fibers at the bases of the leaves, a couple of chisel-pointed sticks, six feet or so in length, are needed to pry away the outer leaves after the mid-ribs have once been cut through with the ax. This inner trunk and those inner leaves which have already begun to unfold are next cut away, until the very young, succulent leaves, which as yet have not commenced to unfold and which appear in the form of a solid, slender cone of pure white, are reached. This cone often measures at its base as much as ten to fifteen inches in diameter, and may be even ten or twelve feet in length. It is a solid mass of crisp white matter, finer in texture than the innermost part of a head of cabbage and with a flavor resembling that of almonds. It is ordinarily eaten raw, either with or without salt, although a very good dish is also prepared by boiling it.

The palma real yields another useful product. The tough fibers, called niñtcū'a, which grow along the sides of the base of the mid-rib of the mature leaf, and which,

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as above mentioned, interlace with the fibers of adjoining leaves in such manner as to make it necessary to pry the leaves apart with wooden bars, are strong and pliable, and are woven into burden-bands by which heavy loads are carried. These fibers often attain a length of about four feet and are possessed of tensile strength sufficient to enable their use as strings on the wooden harp which is now made to a very limited extent by the Cayapa. This instrument was borrowed by them from the Indians of the interior, who in turn copied it from the Spanish conquerors.

Another palm, found to a limited extent along the river, is the coconut, called after the Spanish, kō'kō-tci. It does not, however, thrive at any considerable distance from the ocean, consequently few palms are found even at so short a distance up the Rio Cayapas as the mouth of the Onzole. Pl. CXXXI presents a view looking up-stream at the confluence of the Rio Onzole with the Rio Cayapas, and, upon the projection of land between them, the hacienda of one of the more prosperous of the negroes of the region. Several coconut palms appear in front of the house. Coconuts grow well along the immediate coast, and there are here large groves, the nuts being shipped to nearby villages and to points even as far away as Esmeraldas. They are purchased to a certain extent by the Indians, by whom they are used in very limited quantities as food, more especially for the so-called coconut-milk which is made from the ripe nuts.

In addition to the foregoing food-producing plants,

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species now used, the one producing a globular fruit called wa'ĭyû, and the other an ellipsoidal fruit called cā'lya, were introduced here from Colombia. Every house is provided with one or more of these trees, and usually at least one of each of the two species. These large gourd-like fruits are produced in considerable numbers by such a tree and find a variety of uses. They are gathered when just ready to turn from green to ripe and are immediately hollowed out into utensils of several kinds. The details of manufacture and the uses of these utensils are treated on pages 166–173.

Another fruit, some species of which are said to be indigenous and some introduced, which is found abundantly in this region, is what is called by the local Spanish name guabo or guaba. This requires no cultivation, but the trees are carefully guarded against destruction. It is rarely if ever purposely planted, but grows from the accidental dropping of seeds. In the vicinity of almost every house there are several trees of one or more of these species. The fruits, which grow in long pods, are much esteemed and are almost invariably eaten raw. Each variety has its own special name, as follows:

Cayapa	*Spanish*
mactē'-pa cîlyû,	guabo de macheton (machete guabo, so named on account of the shape of the pod).
nĭ'ñga cîlyû,	guabo de tacoano.
pā' cîlyû,	guabo dulce (sweet guabo). The Cayapa name signifies "water guabo."
sa' cîlyû,	guabo agria (sour guabo). The Cayapa name also signifies "sour guabo."
pû' cîlyû,	guabo.

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Of these species the one most commonly found about the houses and the most used is pū′ cīlyū, a wide-spreading tree reaching a height of about forty feet. A general view of this species is shown in pl. v, in which the broad, branching top of one of the trees is shown prominently against the sky toward the left of the center of the picture. The habits of growth of the other varieties are similar to this.

A species of small Compositæ, called lu′lyū, which somewhat resembles the marigold, is grown with considerable care, its special use being to provide decorative flowers for fiestas. The flowers are made up into long garlands which are draped about the altar of the church or are worn about the necks of those celebrating the fiesta. They are also sometimes inserted in the hair, over the ears, or about the clothing.

Upon the drying platform attached to the house there is almost always a fragment of an old canoe or some broken pots or other utensils in which are grown several of the various species of medicinal herbs, such as limoncillo, or of other plants valued for the scent of their leaves or seeds, or plants used as teas.

In addition to those already mentioned in greater detail, there are several other introduced fruits, such as the papaya, the caimito, the orange, the lemon, the lime, and the sour sap, which are grown so rarely by the Cayapa as to make them almost negligible in a consideration of the vegetal products of the people. They spring up almost always by the accidental falling of seeds in favorable soil, rather than by intentional

3: Barrett E-5 (1908-1909)1925
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planting. They are, however, all eaten raw and to a limited extent by the Cayapa whenever obtainable. 245 262

Hunting

In the Cayapa region, where game of various sorts is so abundant, hunting is a practice of considerable importance. This is now done almost entirely with old-fashioned muzzle-loading shotguns, which have supplanted blow-guns almost entirely. In aboriginal times the blow-gun was the chief weapon employed in hunting, and a few of them are still in use, especially by the boys in hunting small birds. In addition to the blow-gun the Cayapa say that they formerly had lances made entirely of the wood of certain hard palms, and that more recently they used the bow and arrow. They maintain that they originally did not know the use of the bow and arrow, but that they became acquainted with these only after coming down from the high mountains to the vicinity of their present abode, which was then occupied by another people. The bow and arrow appear to have been comparatively little used at any time by the Cayapa, but formerly the lance was much used in hunting wild hogs and one or two other species of game. In fact it is still used by some in hunting the guanta, a species of large rodent which lives in burrows. 224 411 [177] [177]

The blow-gun, called by the Cayapa pitcū'ə, is a slender tube varying from about six to nine feet in length, made of palm-wood wrapped with pitigua and the whole covered with brea, the black waterproof wax used especially for calking canoes. The blow-gun tapers [237]

3: Barrett E-5 (1908-1909)1925
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796 A boda held from January seventh to tenth, 1909, was as follows:

At the Christmas fiesta announcement was made that two certain families would give a boda on January seventh. Meanwhile the members of these families commenced to accumulate the provisions for the feasts. Much hunting and fishing and drying of meat were done; rum was distilled; vegetal foods were procured; and, not the least in importance, a trip was made to the ocean to procure shellfish and crabs. On the afternoon of January seventh, accordingly, a considerable number of people assembled, still others coming in on the following day. No feasts or special ceremonies were held until the next day.

First day. January eighth, 1909

At about 9 A.M. a service was conducted in the church, followed by feasts in one of the houses of the village.

The first of these feasts was an ofrenda. While the service was being held in the church, the members of the family, assisted by friends, were placing upon the table all the food which had been prepared the night before. The table, as usual, was prepared by spreading upon a considerable area of the floor a covering of the large leaves of hoja blanca, and upon these were placed all manner of eatables. Liquids or semi-liquids were contained in pottery or calabash dishes, and dry foods were placed directly upon the leaves. There were many of the various mammals, birds, and fishes of the region dried and smoked until almost jet black; monkeys, guatins, squirrels, zorras, woodrats, and other mammals

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3: Barrett E-5 (1908-1909)1925
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dried whole; and guantas, deer, jaguars, pumas, armadillos, sloths, and wild hogs, all in dismembered parts. Among the birds were parrots, toucans, doves, grouse, wild turkeys, herons, and egrets, all dried whole. Dried fish of various species, especially the shad, were present. In vegetal foods also there was great variety, as the plantain, yuca, papaya, rascadera, sugar-cane, coconut, guabo, zapote, bread-fruit, orange, chonta dura, and palma real. Care was taken in arranging the table to see that there should be as much display as possible. The dried mammals and birds were in many cases placed in erect poses, and fruits or pieces of other foods were placed in the beaks of the birds and in the mouths or between the paws of the mammals. In one or two instances mammals were so posed as to appear as if fighting.

Directly after the service in the church, to which a small portion of the food was taken in order that by its presence during the service it might receive the blessing for all the food used in the feast, all the people of the village congregated at this particular house. The men and larger boys occupied the room in which the table was spread, and the women, girls, and small boys the room adjoining. The givers of the feast then presented to whomsoever they thought proper various articles from the table, such as a dried mammal, bird, or fish, and some fruit. These were for the recipients personally, and were to be taken home by them. On receiving such a gift, a man always took it personally or sent it to some of the women of his family in the adjoining room. This division of the food took a considerable part of what was

3: Barrett E-5 (1908-1909)1925
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upon the table; the rest was divided into small bits, and, after an invocation by the warden of the church, the men and boys, all seated on low benches about the table, proceeded to feast. The women meanwhile partook of a portion of the food that had been sent to the next room to them. Having finished the meal, a benediction was pronounced by the warden and the floor was cleared of all scraps of food and the leaves forming the table.

Immediately fresh leaves were spread as at first, and the boda, the word being here used in its more restricted sense, was served. While an ofrenda has a very elaborate assortment of foods, a boda has only fish, oysters, or meats cooked in ripe plantain in the form of a thick gruel. This is served always in the aboriginal pottery plates of the kind shown in pl. LXXXVII, 4, although for everyday use dishes of European manufacture have almost entirely supplanted the pottery plates formerly used. In this particular case the boda consisted of a single course of plantain and fish, but sometimes other courses are served in order. The feast having been finished, the majority of the people went to their respective abodes in the village or to the house of the chief.

At such gatherings offenders against the law are usually brought before the chief, by whom justice is dispensed and differences between individuals adjudicated. On this particular occasion several matters of this nature demanded the chief's attention. The details of these will show something of the methods of dispensing justice among the Cayapa.

Immediately after the boda on this first day the chief sent some officers to bring before him certain offenders

3: Barrett E-5 (1908-1909)1925
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ably due in part to the increased drunkenness, which was apparent throughout the day, but was due more largely to the greed of several negroes present.

After this feast the floor was cleared of remnants of the meal and of the leaves used to make the table. The second feast, the boda, was then served as usual. This consisted of three courses, each served on the same plate in the case of each individual, care being used in replenishing the supply that the plates of different individuals should not be interchanged. The three courses of these mush-like foods consisted of plantain with fish, plantain with meat, and plantain with oysters. In case any individual did not eat any or all of his portion, it was taken to the next room by the host or by one of the attendants and given to one of the women of his family. The men giving the boda served the guests, while the women attended to filling the plates.

In this particular instance the whole of the previous night had been spent by the hostess and her friends in cooking and preparing the plantain mushes used in this boda. While hot they were poured into burden-baskets lined with leaves. When served they were cold and very thick.

Immediately following the feasts another refractory pair were brought to justice. In this case the man had forsaken his wife and for three months had been living with his first cousin, who had deserted her husband. Each of the culprits, therefore, was charged with the double crime of desertion of spouse and cohabitation with first cousin. These are considered great breaches of tribal law and are severely punished. As on the previous day,

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of the Cayapa and the Negroes of the area. The extreme humidity of the region, coupled with the saturated, heavy clay soil that predominates, precludes slash and burn cultivation. The Cayapa region is just on the very southern edge of the area marked by a peculiar diagnostic trait:

> . . . slash-mulch cultivation, of probable Indian origin, has evolved. Seeds are broadcast and rhizomes and cuttings are planted in an uncleared plot; then the bush is cut; decay of cut vegetable matter is rapid, forming a thick mulch through which the sprouts from the seeds and cuttings appear within a week or ten days (West 1957: 129).

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The main food crops are maize /pí$\tilde{e}$u/, plantain /pánda/, sugar cane /éla/, sweet manioc /xi$^{y}\tilde{e}$u/, Rascadera (Xanthosoma sagittifolium), a taro-like aroid tuber called /tóa/, squash /ki/, pineapple /$\tilde{c}$íl^{y}a/, beans /mílu/, and bananas /seda/. The latter were universally considered to be starvation food, and prior to the recent world market demand for them, were fed to the pigs. There are many fruits such as papaya /papí^{i}ya/, oranges /lénaa/, lemons /lémo/, zapote /sapóta/, guabo /$\tilde{e}$íl^{y}u/, chirimoya (a. cherimola). Some sweet potatoes are grown, but they are scarce due to the depredations of

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pigs who find them especially delectable. The Cayapa seldom plant coconuts, but the Negroes do so whenever possible. Important palms are the Tagua and the Chontaduro. The tagua nut was formerly an extremely important economic product: its hard seed was in constant demand on the world market for the manufacture of shirt buttons. With the rapid development of the plastics industry some thirty years ago, the market for tagua seeds completely collapsed. The Cayapa still talk nostalgically of the days when money did apparently grow on trees. Though its export value has declined, the tagua palm, nevertheless, is still important to the internal economy: the leaves are used extensively for roof thatching, the nut is a minor item in the diet, and when the tree dies, the /mi$\tilde{\text{i}}$u/, a delectable and very oily grub can be dug out of the trunk. Both men and woman may work in the gardens. Generally speaking, however, the men clear the garden and the women plant the seeds or roots. Men and women may harvest the crops.

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The staff of life for the inhabitants of the Pacific Lowland Culture Area is the plantain which is found in many varieties. It may be eaten green or

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ripe, but most often it is boiled green and then pounded on a mortar. Bits of meat and/or fish may be added to the pulp. In this form it is called bola by both Negroes and Cayapa. In the ripe form, it may be boiled and treated as bola, or it may be eaten raw. Children eat enormous amounts of ripe plantain, and they never seem to become satiated. Important adjuncts to the subsistence pattern are the traveling merchants who bring canoe-loads of dried fish, clams, bread, cookies, sugar, and candy as well as smuggled Colombian cloth and clothing, up from the coast.

Hunting is a very important activity, and most Cayapa men spend one or two days a week hunting game. The main animals are large rodents called guanta /walámbu/, a smaller rodent called guatin /kúyu/, peccary /tsetíku/, jaguar /kála/, puma /ʔʃkála/, monkey /wámu/, squirrel /yámbu/, and the armadillo /kilʔímbu/. Large birds are shot whenever possible and include toucans /ʔámbiru/, the wild turkey /kla/, and a hawk /kuyálʔu/. At the present time, hunting is done almost entirely with muzzle-loading shotguns. Hunting is generally a small operation involving no more than three

men, and occasionally only one shotgun is available to share among them.

Fishing is an important adjunct to the dietary pattern. Fish are dynamited, netted, speared, trapped, drugged, and hooked. Often a man or boy will work his canoe up-stream and then drift slowly down while he plays his hook and line which are tied to a light pole. The fisherman baits his hook with a lively grasshopper, drops his line into the water, then holds his arm motionless except for a slight movement of his wrist which causes the line to move with a sinusoidal motion. This favorite method can only be used when the river is very low. At these times, in the evening, three men or boys go out in a canoe moving slowly along the bank. One man paddles, another holds a flashlight or a pressure lantern, and the third man stands ready with a fish spear. The light attracts multitudes of fish, and the haul is invariably a huge one. Lobster can also be easily trapped when the river is low. A lobster trap, called _catanga_ is baited with plantain. It is set under water alongside a bank that has some protuberance, such as a pile of driftwood. The mouth of the trap is placed so it faces

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Father's si. so. da. /ʔapuʔúsa/
Father's mo. br. son /ʔapúyu/ w.s., /ʔadíyu/ m.s.
Mother's br. son's wife /ʔuya/
Husband's fa. si. son /apípi/
Mother's br. son's son /apiʔa/ m.s.
Father's father's si. son /apíku/ m.s.
Mother's br. so. daughter /unʔunátacúkki/

842 Pregnancy and Birth. The Cayapa understand that there is a connection between sexual intercourse and pregnancy but believe that repeated intercourse is necessary for conception. A woman is known to be pregnant when the menstrual period ceases and the areolae 843 and nipples /ʔuháipa/ become enlarged and darker. There [262] do not seem to be any abnormal food cravings nor are there any food taboos. There is some feeling of "shame" [152] concerning pregnancy, and a woman never tells her husband or anyone else that she is pregnant. It will soon be obvious to everyone anyway.

The woman continues her normal routine until she is well advanced in her pregnancy, at which time 844 she remains in the house where she eventually gives 123 birth. Children have been born at fiestas, and I was a partial witness to such a birth at a fiesta at [769] Rogelio Grande. The party was an ofrenda given by Marianito Anape in honor of his parents, who had died

If the mother should die first, then no attempt is made to remove the child. Births that result in death are said to have been caused by witchcraft. Insofar as I was able to determine, no counter measures are taken for revenge. 845 [754]

When labor pains begin, the woman is given a hot drink of rum, lemon, and sulfur. Some women claim to have had painless births, and others claim it hurt each time. After the delivery the mid-wife cuts the umbilical cord /pesíl^{y}i/ with a metal knife. The mid-wife buries the umbilical cord under the house about two hours following the birth. It is said that if the cord should be thrown away, then a malignant spirit would get it, and turn it into an animal that kills people. Also, if the cord were not properly buried, then the mother might die of hemorrhage. 844 [278] [412] 846 [776]

After the delivery the mother remains at home for two months. She does light tasks about the house, but she does not go to work in the fields. She observes some food taboos during this period such as being forbidden to eat crabs, clams, or meat. If the taboo is broken, it is believed that she will lose her [262] [784]

blood and die. The father is under no food restriction. The infant is given the breast very shortly after birth and is permitted to drink the colostrum /ĭ̆ɛpi/: /ĭ̆ɛ-/ 'clear' /pi/ 'water' 'liquid.' For the first month, the child is given only the breast. He is fed "on demand" providing it is convenient to the mother; for example, if the infant is being held at the time he wishes to be nursed, he is indulged. If, however, the child should be crying while his mother is engaged in some task that requires standing or the use of both hands, his cries are ignored. Also, if the mother is busy in another part of the room, the infant is likewise required to wait for the fulfillment of his needs.

By the end of the second month the mother may do some light work in the monte. The infant is never taken along when the mother goes to work outside; instead, he is left in the care of a sibling or older female relative. The child is fed kulada which is prepared from crushed, dried, green plantain, sugar, and water. If a lactating woman is present, she may give the infant her breast. The child may be nursed for three years unless he is usurped from the breast

4:Altschuler E-5 (1959-1960) 1965
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[The Negroes, however, wean their children after one year, and some Cayapa women are beginning to imitate them.] Weaning is accomplished by shaming or ridiculing the child, or frightening him with stories of cannibalistic ogres, or applying bitter tasting substances to the nipple.

The Cayapa child between the ages of three to five is marked by what appears to be incipient rickets, rotted teeth and skin diseases that arise from a marked deficiency in vitamins A, C and D. This stems in major part from the fact that the child is generally kept within the confines of the home at these ages. The Cayapa house is usually built without walls; it is a roof supported by tall posts, and is perched above the ground on a hill overlooking a river. If the infant should manage to climb down the ladder to the ground, and somehow avoid tumbling down the hill into the river, he must still contend with snakes that are fairly common in the area. Consequently his movements within the house are restricted and he is effectively blocked off from direct sunlight and on canoe trips he is usually placed under a canopy. While fruit is plentiful, it is

4:Altschuler E-5 (1959-1960) 1965
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seldom brought home to the confined child; the adults eat it as they pluck it from the tree or purchase it from traveling vendors at the riverside. During his fifth year when he is permitted to move about in the sunlight and secure fruit, the incidence of skin disease decreases and his rickety appearance disappears.

Children are wanted and beloved. As an example of permissiveness, they are allowed to indulge in cookies, candies, sugar and soft drinks, but conversely an element of teasing often enters the picture. To illustrate, a small child will be offered a goody, which, when he reaches for it, will be snatched away. Reactions to this affront vary: some children cry; others just sit looking forlorn. The adults seem to enjoy this teasing. An impressive example of contrastive behavior presented itself one day as a group of Indian women and their children came to visit us. Everyone was seated on the floor in a circle, and the conversation was desultory. Finally, a woman took a piece of candy and handed it to my son who was sitting on his mother's lap. As he reached out eagerly for the tidbit, the woman brought her hand back. At this everyone laughed, but the child

Once a year, as a rule,

groups of Cayapa will band together for protection against the cutthroats and brigands that infest the coastal regions, load their canoes with as much rubber as they have been able to collect, and set off in small flotillas. Sometimes they are joined by a few Negroes. Bringing rubber into Colombia in this manner is illegal and it is also illegal to bring back Colombian goods into Ecuador. The Cayapa are very conscious of the illicit nature of the activity and the trip to them is a big adventure. Rubber is their only economic product that is of value in Colombia. The price varies from year to year, but generally fluctuates around the equivalent of thirty dollars U. S. per one hundred pounds. Unfortunately, rubber trees are subject to poaching.

If the land is sufficiently remote, it may be good for raising pigs. (Remoteness lessens the possibility of theft.) Fruit trees are very often planted by women when they marry. The most popular fruits are chirimoya, a kind of custard apple, oranges and zapotes. Large sections are planted to the tagua palm that, at one time, was as important economically as the banana is today. The tagua nut is only a minor item in the

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diet now, but the leaves are in demand for roofing material. Another cash crop is hardwood trees, but they are not often planted; enterprising individuals cut them out of the unclaimed forest.

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Land is seldom held in one large block. It is usually scattered about among other holdings so that, quite often, choice properties are separated by distances involving several day's travel. Many Cayapa have two houses, each built as close as possible to their main holdings. Inevitably, they must spend considerable time away from large sections of their property and, as a result, Negroes often illegally harvest standing crops or, perhaps, plant their own. Negroes may buy land from the Cayapa, but as the banana economy continues to boom, the Indians are more and more reluctant to sell. Sometimes usufruct is rented by the Negro, usually for a share of the profits, but arguments invariably develop. It is said that the Indian is always at a disadvantage in his dealings with the Negro because of the latter's readiness to engage in witchcraft and "spoil" the land for the Indian owner. If several members of an Indian's family sicken or die, after a recent quarrel with a Negro about land, it is assumed that witchcraft has been

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4:Altschuler E-5 (1959-1960) 1965
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until the child is about four years of age. The Cayapa child between the ages of three to five is marked by what appears to be incipient rickets, rotted teeth and skin diseases that stem from a marked deficiency in vitamins A, C and D. [Prior to this time the child may have been extremely healthy.] During the period of confinement to the house he is effectively blocked off from sunlight within the house and on canoe trips he is placed under a canopy. While fruit is plentiful, it is seldom brought home to the confined child; the adults eat it as they pluck it from the tree or purchase it from traveling vendors at the river side. The child is permitted, indeed encouraged to eat refined sugar by the fist full and to drink soda pop. During his fifth year when he is permitted to leave the confines of the house he is able to move about in the sunlight and secure fruit; then the incidence of skin diseases decreases and his rickety appearance disappears.

The low sexual drive of the adult male Cayapa is best reflected in his replies to questions on the frequency of coitus. Recalling that sexual prowess is admired, married men in their late twenties and early